MOBILE BROWSERS AND CLOUD GAMING

MARKET INVESTIGATION

Notice of provisional findings made under rule 11.3 of the Competition and Markets Authority Rules of Procedure (CMA17)

1. On 22 November 2022 the Competition and Markets Authority (CMA) in exercise of its powers under sections 131 and 133 of the Enterprise Act 2002 (the Act) made a market investigation reference in respect of the supply of mobile browsers and mobile browser engines, and the distribution of cloud gaming services through app stores on mobile devices (and the supply of related ancillary goods and services) in the United Kingdom.

2. The CMA inquiry group (the Group) appointed to consider this reference has provisionally found, pursuant to section 134(1) of the Act, that there are features of the relevant markets, which individually or in combination prevent, restrict or distort competition in the supply of mobile browsers, mobile browser engines and related ancillary goods and services in the United Kingdom and accordingly that there are adverse effects on competition (AECs) within the meaning of section 134(2) of the Act.

Provisional findings

3. The Group has provisionally found that there are AECs in the markets for: (i) the supply of mobile browser engines on iOS;(ii) the supply of mobile browsers on iOS; (iii) the supply of in-app browsing technology on iOS; and (iv) the supply of mobile browsers on Android. The geographic scope of the relevant markets is at least as wide as Europe (ie UK and EEA).

Supply of mobile browser engines on iOS

4. The Group has provisionally found that features of the market for the supply of mobile browser engines on iOS, individually or in combination, prevent, restrict or distort competition in connection with the supply of mobile browser engines on iOS. Accordingly, the Group has provisionally found that there is an AEC in the market for the supply of mobile browser engines on iOS. The relevant features provisionally identified are:

   (a) **Web compatibility creates indirect network effects:** Indirect network effects arise from web compatibility because web developers want to ensure that their websites and web apps are compatible with the mobile browsers

and browser engines used by most consumers. The more users a mobile browser or browser engine has, the more web developers are likely to ensure compatibility with it. In turn, if more web developers develop their content to be compatible with a mobile browser or browser engine, it will be more attractive to users as it supports more content. These indirect network effects provide benefits to more popular mobile browsers and browser engines and limit the ability of smaller providers to compete effectively.

(b) **Apple requires all mobile browsers on iOS to use a specific version of Apple's own WebKit browser engine:** This means that on iOS there are no competing browser engines and Apple therefore does not face competitive pressure from within the market to improve its browser engine to attract and retain users.

(c) **Apple restricts alternative browser engines for in-app browsing on iOS:** This impacts competition in the supply of mobile browsers and browser engines. This is because improvements introduced by providers of bundled in-app browsers could be adopted by standalone browser engines, for example because those improvements are contributed to the open-source community, or because browser engines may monitor large in-app browsers and respond to those improvements by developing competing features.

Supply of mobile browsers on iOS

5. The Group has provisionally found that features of the market for the supply of mobile browsers on iOS, individually or in combination, prevent, restrict or distort competition in connection with the supply of mobile browsers on iOS. Accordingly, the Group has provisionally found that there is an AEC in the market for the supply of mobile browsers on iOS. The relevant features the Group has provisionally identified are:

(a) **Concentration in the supply of mobile browsers on iOS:** Safari is the main browser on iOS devices, with a share of supply of 88% in March 2024, Chrome is the second largest, with a share of 11% and these market positions have been stable over time.

(b) **Web compatibility creates indirect network effects:** Indirect network effects arise from web compatibility because web developers want to ensure that their websites and web apps are compatible with the mobile browsers and browser engines used by most consumers. The more users a mobile browser or browser engine has, the more web developers are likely to ensure compatibility with it. In turn, if more web developers develop their content to be compatible with a mobile browser or browser engine, it will be more attractive to users as it supports more content. These indirect network effects

provide benefits to more popular mobile browsers and browser engines and limit the ability of smaller providers to compete effectively.

(c) **Users have low awareness and engagement with mobile browsers:** Users do not consider mobile browsers to be an important factor when choosing a mobile device and have limited awareness of different mobile browser options. This means that competitive pressure deriving from consumer behaviour such as switching between the use of different browsers is low. This fact is reinforced by mobile browser selection being largely influenced by the operating system itself, which often pre-determines the mobile browser users will engage with.

(d) **Apple requires all mobile browsers on iOS to use a specific version of Apple's own WebKit browser engine:** Mobile browser vendors are therefore prevented from using an alternative browser engine which may offer greater functionality or better suit their needs. This restricts the ability of third-party mobile browser vendors on iOS to compete, by limiting their ability to differentiate and improve their mobile browsers and adding to their costs.

(e) **Apple provides greater access to functionality to Safari compared to rivals:** There are several functionalities used by Safari that are entirely unavailable to third-party browsers. For other functionalities third-party browser access is more limited than Safari's or is only made available after a significant delay. This prevents third-party browsers offering the same features and innovations as Safari, and therefore restricts their ability to compete with Safari.

(f) **Apple controls choice architecture in the factory settings for device on first use of mobile browsers:** On iOS devices, only Safari is pre-installed on new devices, placed in the 'hotseat' on the home screen, and pre-set as the default browser in factory settings. This feature reduces user awareness, engagement and choice, increases barriers to entry and expansion for other browser vendors and further reinforces Safari's very strong position on iOS.

(g) **Apple uses certain choice architecture practices after the point of device set-up for mobile browsers:** After the point of device set-up on iOS devices, users face friction in the user journey for changing default settings if they wish to switch from Safari to an alternative mobile browser, through an 'unprompted' journey (ie that is by going to the device settings menu and following the relevant steps to do so). Apple also does not provide API functionality for third-party browser vendors that would enable them to target prompts specifically to users who have downloaded, but not yet set, an alternative mobile browser as their default browser. These practices further increase barriers to entry and expansion for other browser vendors and reduce user awareness and engagement on iOS.

(h) **Apple and Google have a revenue sharing agreement (ie the Information Services Agreement):** Apple and Google earn significant revenue when their key rival's mobile browser is used on iOS, reducing their financial incentives to compete. In fact, the extent of this revenue-sharing is so large that the revenue share they earn from their competitor's product is lower but similarly significant to the revenue share they earn from their own, so that the incremental revenue from winning a customer, and therefore the incentive to compete, is limited. This reduces their incentives to compete in the supply of mobile browsers on iOS, where they are the main competitors (together accounting for ~99% of the supply of mobile browsers on iOS as of March 2024) and have been for the past five to ten years.

(i) **Apple restricts alternative browser engines for in-app browsing on iOS:** In addition to impacting competition in the provision of in-app browsing technology (see below), this also impacts competition in the supply of mobile browsers and browser engines. This is because improvements introduced by providers of bundled in-app browsers could be adopted by standalone browser engines, for example because those improvements are contributed to the open-source community or because browser engines may monitor large in-app browsers and respond to those improvements by developing competing features.

(j) **Apple restricts remote tab in-app browsing on iOS:** In addition to impacting competition in the provision of in-app browsing technology (see below), this also impacts competition in the supply of mobile browsers on iOS. This ban reduces the ability of browser vendors to compete on iOS as it prevents mobile browsers on iOS from gaining additional traffic from in-app browsing and any benefits deriving from it (including improved web compatibility).

Supply of in-app browsing technology on iOS devices

6. The Group has provisionally found that features of the market for the supply of in-app browsing technology on iOS, individually or in combination, prevent, restrict or distort competition in connection with the supply of in-app browsing technology on iOS. Accordingly, the Group has provisionally found that there is an AEC in the market for the supply of in-app browsing technology on iOS. The relevant features the Group has provisionally identified are:

(a) **Web compatibility creates indirect network effects**: As described above, indirect network effects arise from web compatibility because web developers want to ensure that their websites and web apps are compatible with the mobile browsers and browser engines used by most consumers. These indirect network effects provide benefits to more popular browsers and browser engines and limit the ability of smaller providers to compete

effectively. As a result, additional traffic, including potentially from in-app browsing, is likely important to mobile browsers to compete on iOS.

(b) **Users have low awareness and engagement with the in-app browsing technology:** Users' low awareness and engagement with mobile browsers extends to in-app browsing technology, albeit this may be due to the fact that in-app browsing technology is often implemented by app developers to enable a seamless transition between native and web content within the app. As a result, competitive pressure on in-app browsing technology deriving from consumer behaviour such as switching is low.

(c) **Apple restricts use of alternative browser engines for in-app browsing on iOS:** Apple requires all in-app browsing technology to be based on a specific version of Apple's own WebKit browser engine on iOS. This prevents app developers from using a browser engine of their choosing which limits them from introducing new or innovative features in their in-app browsers and therefore limits competition in the provision of in-app browsing technology as it reduces the in-app browsing options available on iOS. Further, this also eliminates the potential for providers of bundled engine IABs (ie browser engines used for in-app browsing) to exert competitive pressure on the adjacent markets for standalone mobile browsers and browser engines, as well as to incentivise Apple to improve its own in-app browsing technology.

(d) **Apple restricts remote tab in-app browsing on iOS:** This ban restricts competition in the supply of in-app browsing technology on iOS as it prevents browser vendors from competing against Apple's own in-app browsing offering (SFSafariViewController), which is the only lower-cost solution for app developers to implement in-app browsing on iOS. Together with the restriction of alternative browser engines for in-app browsing, this ban means that Apple does not face any competition in the supply of in-app browsing technology on iOS. It also reduces the ability of browser vendors – as well as the browser engine they are built on – to compete on iOS as it prevents them from gaining additional traffic from in-app browsing and any benefits deriving from it (including improved web compatibility).

Supply of mobile browsers on Android

7. The Group has provisionally found that features of the market for the supply of mobile browsers on Android, individually or in combination, prevent, restrict or distort competition in connection with the supply of mobile browsers on Android. Accordingly, the Group has provisionally found that there is an AEC in the market for the supply of mobile browsers on Android. The relevant features the Group has provisionally identified are:

(a) **Concentration in the supply of mobile browsers on Android:** Chrome is the main browser on Android devices, with a share of supply of 78% in March 2024, Samsung Internet is the second largest, with a share of 17% and these market positions have been stable over time.

(b) **Web compatibility creates indirect network effects:** Indirect network effects arise from web compatibility because web developers want to ensure that their websites and web apps are compatible with the mobile browsers and browser engines used by most consumers. The more users a mobile browser or browser engine has, the more web developers are likely to ensure compatibility with it. In turn, if more web developers develop their content to be compatible with a mobile browser or browser engine, it will be more attractive to users as it supports more content. These indirect network effects provide benefits to more popular mobile browsers and browser engines and limit the ability of smaller providers to compete effectively.

(c) **Users have low awareness and engagement with mobile browsers:** Users do not consider mobile browsers to be an important factor when choosing a mobile device and have limited awareness of different mobile browser options. This means that competitive pressure deriving from consumer behaviour such as switching between the use of different browsers is low. This fact is reinforced by mobile browser selection being largely influenced by the operating system itself, which often pre-determines the mobile browser users will engage with.

(d) Google controls choice architecture in the factory settings for Android devices on first use of browsers: On Android devices, Chrome is often pre-installed on the device and prominently placed either in the 'hotseat' or in a 'Google' folder in factory settings and in some cases pre-set as a default. This feature raises barriers to entry and expansion for other browser vendors and maintains low levels of consumer awareness and engagement in relation to choice of mobile browsers, reinforcing Chrome's very strong position on Android.

(e) Google uses specific choice architecture practice after the point of device set-up for mobile browsers: Google surfaces prompts to users when they are in an alternative mobile browser to encourage them to switch their default mobile browser back to Chrome. Google's use of these prompts to switch back to Chrome across multiple access points such as Google's first-party apps (eg Gmail and Google Maps) and the Google search website (when accessed via other browsers), limits mobile browser competition by reinforcing Chrome's very strong position on Android.

Distribution of cloud gaming services

8. The Group has provisionally not found an AEC in connection with the distribution of cloud gaming services through app stores on mobile devices in the United Kingdom.

Provisional decision on remedies

9. During the course of this market investigation, the CMA has been granted powers under the Digital Markets, Competition and Consumers Act 2024 which establishes a new pro-competition regime for digital markets. These powers enable the CMA to designate firms as having 'strategic market status' (SMS) in relation to one or more digital activities; and impose forward-looking requirements to guide the conduct of firms designated with SMS.

10. The Group has provisionally concluded that an effective and comprehensive means of addressing the competition concerns it has provisionally identified is to recommend to the CMA Board that, using these new powers:

    (a) it prioritises commencing SMS investigations to assess whether it would be appropriate to designate Apple and/or Google for their respective digital activities in mobile ecosystems; and it is recommended that the scope of such SMS investigations includes the supply of mobile browsers, browser engines and in-app browsing technology; and

    (b) if such designation(s) are made, it considers imposing appropriate interventions, such as those the Group has considered in this report.

11. The Group's reasons are set out in full in the provisional decision report, which is attached to this notice, and are summarised in the summary of the provisional decision report (see note below).

Next steps

12. The Group now invites interested parties to submit reasons in writing as to why these provisional findings should not become final (or should be varied).

13. Unless otherwise specified to a party, these reasons should be received by the Group no later than 5pm on 13 December 2024.

14. Unless a different date is agreed with any party, the Group will have regard to any such reasons provided by this date in making its final decisions in this investigation.

MARGOT DALY

Group Chair

22 November 2024

Note: A copy of this notice and the summary of the provisional decision report will be placed on the CMA's website on 22 November 2024. The CMA proposes to publish the provisional decision report on its website on the same day or shortly thereafter. The published version of the provisional decision report will not contain any information which the Group considers should be excluded from the report, having regard to the three considerations set out in section 244 of the Act.

Comments should be made by email to browsersandcloud@cma.gov.uk.